

CLOSE-LOOP MONITORING OF ELECTROPLATE BATH CONSTITUENTS USING ATMOSPHERIC PRESSURE IONIZATION MASS SPECTROMETRY

ABSTRACT OF THE DISCLOSURE

The present invention provides methods and apparatus for analysis and monitoring of electrolyte bath composition. Based on the results of the analysis, the invention controls electrolyte bath composition and plating hardware. Thus, the invention provides control of electroplating processes based on plating bath composition data. The invention accomplishes this by incorporating mass spectral analysis into a feedback control mechanism for electroplating. Mass spectrometry is used to identify plating bath conditions and based on the results, the plating bath formulation and plating process are controlled.